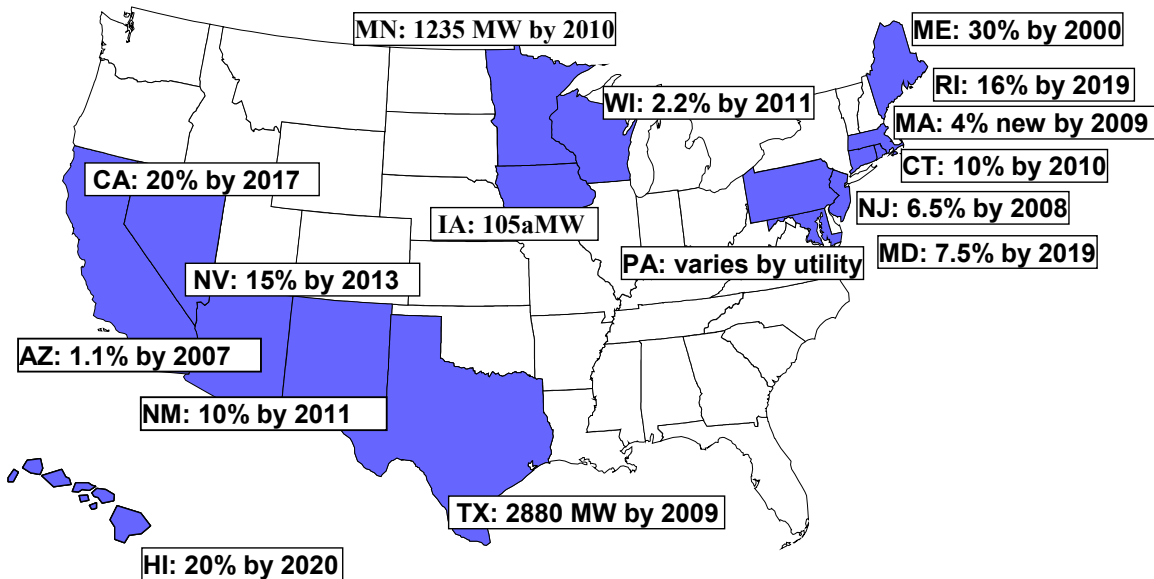


3.3 – States with Renewable Portfolio Standards (RPS)

A Renewable Portfolio Standard (RPS) is a policy that obligates a retail electricity supplier to include renewable resources in its electricity generation portfolio. Retail suppliers can meet the obligation by constructing or owning eligible renewable resources or purchasing the power from eligible generators. To date, 16 states have adopted RPS policies or renewable purchase obligations. Initially, most states adopted RPS policies as part of electric industry restructuring; but, more recently, a number of states have implemented policies by legislation or proceedings that are separate from restructuring activities. In conjunction with system benefits funds, RPS policies are expected to lead to the development of more than 17,000 MW of new renewable energy capacity by 2017 (see **Figure 3.3.1**).



Source: Updated by NREL July 2004 based on original map prepared by Lawrence Berkeley National Laboratory and Union of Concerned Scientists.

Figure 3.3.1. Renewable Portfolio Standards and Renewables Purchase Obligations by State

Table 3.3.1. State Renewable Portfolio Standards and Purchase Requirements

State	Purchase Requirements	Eligible Resources	Credit Trading	Penalties	Outside of state?
AZ	0.2% in 2001, rising by 0.2%/yr to 1% in 2005, then to 1.05% in 2006, and to 1.1% from 2007-2012. (2001: 50% from solar electric, 2004:60% from solar electric)	PV and solar thermal electric, R&D, solar hot water, and in-state landfill gas, wind, and biomass.	No central credit trading system	30 cents/kWh starting in 2004. Proceeds go to solar electric fund to finance solar projects.	Out-of-state solar eligible if power reaches AZ. Landfill gas, wind, and biomass must be in-state.
CA	Investor-owned utilities must add minimum 1% annually to 20% by 2017.	Biomass, solar thermal, photovoltaic, wind, geothermal, existing hydro < 30MW, fuel cells using renewable fuels, digester gas, landfill gas, ocean energy.	WREGIS system under development	To be determined	Out-of-state eligible if meets criteria for approval.
CT	3% Class I or II Technologies by Jan 1, 2004 Class I 1% Jan 1, 2004 increasing to 1.5% by 2005, 2% by 2006, 3.5% by 2007, 5% by 2008, 6% by 2009, and 7% by Jan 1, 2010	Class I: solar, wind, new sustainable biomass, landfill gas, fuel cells, ocean thermal, wave, tidal, advanced renewable energy conversion technologies, new run of river hydro (<5 MW). Class II: licensed hydro, MSW, and other biomass.	Yes. Using NEPOOL Generation Information System.	Penalty of 5.5¢/kWh paid to the Renewable Energy Investment Fund for the development of Class I renewables	New England resources or electricity delivered to New England are eligible.
IA	Investor-owned utilities to purchase 105 average MW (~2% of 1999 sales)	Solar, wind, methane recovery, and biomass	No	Unspecified	Out-of-state renewables not eligible.
HI	8% by end of 2005, 10% by 2010, 15% by 2015 and 20% by 2020	Wind, solar, hydropower, biomass including landfill gas, waste to energy, and fuels derived from organic sources, geothermal, ocean energy, fuel cells using hydrogen from renewables	Unspecified	Unspecified; standard to be revisited if utilities can not meet it in cost-effective manner	Unspecified
ME	30% of retail sales in 2000 and thereafter. PUC will revisit within 5 years.	Fuel cells, tidal, solar, wind, geothermal, hydro, biomass, and MSW (< 100MW); high efficiency cogeneration. Self-generation is not eligible. Resource supply under this definition exceeds RPS requirement.	No. However, PUC is considering adoption of NEPOOL Generation Information System.	Possible sanctions at discretion of PUC including license revocation, monetary penalties, or payment into renewables fund.	New England resources or electricity delivered to New England are eligible.

State	Purchase Requirements	Eligible Resources	Credit Trading	Penalties	Outside of state?
MD	3.5% by 2006 with 1% from Tier 1 sources, Tier 1 increasing by 1% every other year from 2007 to 2018, Tier II remains at 2.5%, 7.5% total by 2019 and in subsequent years	Tier 1: solar, wind, geothermal, qualifying biomass, small hydropower (<30MW), and landfill methane Tier II: existing large hydropower, poultry litter incineration, existing waste to energy	Yes	Alternative Compliance fee of 2¢/kWh for Tier 1 and 1.5¢/kWh for Tier 2 paid to Maryland Renewable Energy Fund	Trading system to work in conjunction with PJM system
MA	1% of sales to end-use customers from new renewables in 2003, +0.5%/yr to 4% in 2009 1%/yr increase thereafter until determined by Division of Energy Resources	New renewables placed into commercial operation after 1997, including solar, wind, ocean thermal, wave, tidal, fuel cells using renewable fuels, landfill gas, and low-emission advanced biomass. Excess production from existing generators over historical baseline eligible.	Yes. Using NEPOOL Generation Information System.	Entities may comply by paying 5¢/kWh. Non-complying retailers must submit a compliance plan. Revocation or suspension of license is possible.	New England resources or electricity delivered to New England are eligible.
MN	(Not true RPS) Applies to Xcel Energy only: 425 MW wind by 2002 and 110 MW biomass. Additional 400 MW wind by 2006 and 300 MW by 2010	Wind, biomass.	No, other than standard regulatory oversight.	No	Unspecified
NV	5% by 2003 increase 2%/yr until 15% in 2013. Minimum 5%/yr must come from solar.	Solar, wind, geothermal, & biomass (includes agricultural waste, wood, MSW, animal waste and aquatic plants). Distributed resources receives extra credit (1.15).	Yes. RECs valid for 4 years following year issued.	Financial penalties may be applied for noncompliance.	Out-of-state resources eligible with dedicated transmission line.
NJ	Class I or II: 2.5% Class I: 4% by 2008, with solar requirement of 0.16% retail sales (90MW)	Class I.: Solar, PV, wind, fuel cells, geothermal, wave, tidal, landfill methane, and sustainable biomass. Class II: hydro <30 MW and MSW facilities that meet air pollution requirements.	Legislation allows credit trading, PJM credit trading system under development.	Shortfalls must be made up in the following year or financial penalties, license revocation or suspension.	Eligible if power flows into PJM or NYISO. Class II must come from states open to retail competition.

State	Purchase Requirements	Eligible Resources	Credit Trading	Penalties	Outside of state?
NM	5% of retail sales by 2006. Increase by 1%/yr to 10% by January 1, 2011 and thereafter.	Solar, wind, hydro (≤ 5 MW), biomass, geothermal, and fuel cells. 1 kWh solar = 3kWh; 1 kWh biomass, geothermal, landfill gas, or fuel cells = 2 kWh toward compliance	Yes. RECs valid for 4 years from date of issuance.	Yes, but to be determined.	Must be delivered in state.
PA	For PECO, West Penn, & PP&L, 20% of residential consumers served by competitive default provider: 2% in 2001 rising 0.5%/yr. For GPU 0.2% in 2001 for 20% customers, 40% of customers in 2002, 60% in 2003, 80% in 2004.	Solar, wind, ocean, geothermal, sustainable biomass.	No.	Unspecified.	Eligible
RI	3% by 2003, increasing 0.5% annually 2008-2010, increasing 1% annually 2011-2014, increasing 1.5% annually 2015-2019	Solar, wind, eligible biomass, including co-firing, geothermal, small hydropower, ocean, fuel cells using hydrogen derived from renewables.	Yes. Using NEPOOL Generation Information System.	Alternative compliance payments can be made to Renewable Energy Development Fund.	New England resources or electricity delivered to New England are eligible.
TX	1280 MW by 2003 increase to 2880 MW by 2009 (880 MW from existing) ~2.3% of 2009 sales.	Solar, wind, geothermal, hydro, wave, tidal, biomass, including landfill gas. New (operational after Sept. 1, 1999) or small (< 2 MW) facilities eligible.	Yes.	Lesser of 5¢/kWh or 200% of average market value of renewable energy credits. Under certain circumstances, penalty may not be assessed.	Not eligible unless dedicated transmission line into state.
WI	0.5% by 2001 increasing to 2.2% by 2011 (0.6% can come from facilities installed prior to 1998).	Wind, solar, biomass, geothermal, tidal, fuel cells that use renewable fuel, & hydro under 60 MW. Eligibility may be extended by PUC.	Yes. Utilities with excess RECs can trade or bank them.	Penalty of \$5,000-\$500,000 is allowed in legislation.	Eligible
Source: Table updated by NREL July 2004. Derived from table in Wiser, R. Porter, K., Grace, R., Kappel, C. <i>Creating Geothermal Markets: Evaluating Experience with State Renewables Portfolio Standards</i> , report prepared for the National Geothermal Collaborative, 2003.					

Table 3.3.2. State Renewable Energy Goals (Nonbinding)

State	Purchase Requirements	Eligible Resources
Illinois	5% by 2010; 15% in 2020	Wind, solar thermal, PV, organic waste biomass, & existing run-of-river hydro.
Minnesota	1% by 2005 increasing by at least 1%/year to 10% by 2015	Wind, solar, hydro (<60 MW), and biomass